AN INSTRUMENT FOR THE PERCEPTION OF LIGHT THROUGH THE SENSES OF TEMPERATURE AND POSITION.

Dr. Noischewski presented to the Neurological Section of the Society of Russian Physicians, in January, 1889, an instrument which he calls the electrophthalmcyclop. It It consists of a small camera obscura, whose posterior wall is composed of three layers. The first is of fine metallic gauze, the second a closely approximated plate of selenium, and the last a brush-like arrangement of gold wires which are to come in contact with the skin. This veritable cyclop is applied to the middle of the forehead, and the light-rays falling into the apparatus are metamorphosed into a thermo-electric current, which is at once perceived by the glabellar nerve filaments, for the forehead has the senses of temperature and position particularly well developed.

The inventor draws the following conclusions from his experiments with the instrument:

The presence of a light-giving or of an illuminated object is manifested in the perceptive field as a sensation of warmth.

A light object on a dark background is perceived as a peripherally warm sensation, with a sensationless centre.

The degree of the sensation of warmth increases with the approach of the illuminating object, and *vice versa*. A movement of the feeling of warmth toward the right shows that the light has moved to the left, *vice versa*.

If the warm area moves downwards, the illuminating object is moving upwards, and and *vice versa*.

Hence the blind will be able to see light through the mediation of tactile sensibility. It is possible for them by means of this apparatus to perceive the presence of a light object, its position and its movements from side to side, up or down or nearer and farther away.—*Centralb. f. Nervenheilk.*, March, 1889. F. P.

EXCERPTS FROM THE RUSSIAN.

BY DRS. PRITCHARD AND PICK.

ON THE PHENOMENA APPEARING IN ANIMALS AFTER SECTION OF THE POSTERIOR COLUMNS OF THE SPINAL CORD, AND THE RELATION OF THE LATTER TO THE EQUILIBRIUM OF THE BODY.

Prof. W. Bechterew (Wjestnik psichiatrii i nevropatologii, 1889, vii., 1). The writer reports upon a series of experiments on doves, rabbits, and dogs, in which he severed the posterior columns of the spinal cord. The section was made at the cervical portion, preferably in its upper portion. In a few experiments on dogs the section was confined solely to the columns of Goll; in some the nuclei funic. grac. were only severed. Observation of the animals extended over a period of from some days to several months. The extent of the experimental procedure was controlled by postmortem and sometimes by microscopic examination.

At the moment of severing the posterior columns and immediately after, the animals show reflex movements of general unquiet; yet these soon disappear, and then one observes, as a constant effect of the operation, disturbances of movement, which may be interpreted as disturbances of equilibrium. Neither paralysis nor paresis of the extremities makes its appearance; the animals retain their capability of locomotion; they can walk, stand, run; co-ordination of single movements remains uninfluenced: yet, in standing as well as in running, a remarkable insecurity is observed; the animals tumble either forward or backward, or to either side. The flight of the doves operated upon is slow and difficult, and their bodies assume then a peculiar shape; the jumps of the rabbits operated upon are irregular; the dogs walk with their legs spread far apart, and their bodies sway from side to side. Blindfolding the eyes causes in all cases a greater prominence of these phenomena. If the animals remain alive a longer time, then a gradual decrease and sometimes, after several weeks, complete disappearance of the disturbances could be seen.

As to the sensibility, the writer found it in no case to be reduced; the muscular sense of the extremities was also not disturbed. On the contrary, anæsthesia of the fore-paws, together with loss of the muscular sense and disturbance of co-ordination, could be seen, in case the section was made at the height of the fifth to the sixth cervical vertebræ.

In some cases the writer observed, in his animals experimented on, long-continuing hyperæsthesia, and indeed when section was made at the place of lesion it revealed inflammatory changes of the gray substance. The above-described disturbances of equilibrium made their appearance in the same way in dogs, in which not the entire column, but that of Goll was severed or the nuclei funic. grac. injured.

The writer concludes from his experiments that the posterior columns are a path of conduction, which interruption causes a disturbance of the equilibrium, with retention of sensibility.

A CASE OF SEMI-LATERAL FACIAL ATROPHY.

L. Blumenau (Wjestnik psichiatrii i nevropatologii, 1889, vii., 1). A factory operative, fifty years of age, presented distinct atrophy of the right lower half of the face; the cheek was here fallen in, the skin wrinkled, the lower lip thin, and the nostril narrower than on the opposite side. The atrophy also extended to the right half of the tongue, the soft palate, and the maxillary bone. His moustache only grew upon the left side; the right side of the upper lip was completely hairless. The frontal region of the face was not affected. The sensibility of the skin, electric excitability, and peripheric temperature were normal on both sides of the face,

The development of the morbid process began in his sixteenth year; the patient observed then a whitish spot upon the upper lip. In his course of five years the atrophy reached its present extent, and since then has remained without change. No circumstance could be found in his history to which one might attribute ætiological importance.

COMPRESSION OF THE SPINAL CORD IN CONSEQUENCE OF FRACTURE OF THE SECOND DORSAL VERTEBRA.

J. Anfimov (Wjestnik psichiatrii i nevropatologii, 1889, ii.). A man, thirty-four years of age, and up to that time in good health, employed upon a street-railroad, July 28, 1888, was run over by a droschky, by which he got a violent blow between the shoulders; he fell prostrate and was thrown to one side. He did not lose consciousness and was able to raise himself and walk home, about fifteen kilom. away, where, about two to three hours afterward, sudden and complete paralysis of the lower extremities made its appearance. He was brought at once into the surgical clinic, where, besides complete paraplegia, inferior, paralysis of the bladder and rectum was diagnosed. Loss of sensibility over the entire body below the second rib was also remarked; temperature 37° C., pulse 48 in 1′; painfulness to pressure of the cervical vertebræ. The next day an attack of asphyxia appeared, which was removed by artificial respiration and injection of ammonia; in the days following, phenomena of fever and decubitus. September 13th he was received into Prof. Mierzejewski's clinic in the following condition :